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ABSTRACT

Based on data derived from a study of three generations of black women in Philadelphia in 1975, the report offers a new explanation of fertility differences between generations, population subgroups, and individuals. The authors hypothesize that varying fertility patterns are due to societal norms and circumstances which influence womens' attitudes toward birth control. A survey questionnaire which was organized around events occurring in the age intervals 13-19, 20-29, and 30-49 was administered to 718 women. The questionnaire inquired about all events such as pregnancy and contraception that took place in a particular age interval before moving on to the next interval. Questions centered on fertility determinants, specifically fecundity, frequency of intercourse, marital stability, and use of birth control. Among the more pertinent findings presented are: attitude toward birth control is as important as simple knowledge of birth control methods; pregnancy can influence mating, fecundity, and contraceptive use as well as vice versa; and the timing of reproductive events, often determined by chance factors, influences fertility differentials. The conclusion is that researchers can provide a new perspective on 20th century American fertility patterns if they concentrate on the temporal dimensions of fertility determinants. (DB)

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Those Perplexing U.S. Fertility Swings

A New Perspective on a 20th Century Puzzle

by

George S. Masnick and Joseph A. McFalls, Jr.

During the 20th century, U.S. fertility first dropped to a low in the 1930s, surged upward with the post-World War II baby boom, and has now plummeted to a record low level in the 1970s. These massive fertility swings have never been fully explained, either by the demographic transition theory or current social and economic theories. Nor has a satisfactory hypothesis been offered to explain the course of U.S. black fertility which has paralleled the swings in white fertility despite the markedly different social and economic history of U.S. blacks.

In this PRB Report, *George S. Masnick and Joseph A. McFalls, Jr., offer a new explanation of fertility differentials between generations, population subgroups, and individuals. In their view, childbearing or childlessness evolves out of each woman's ongoing experience, particularly during adolescence, as shaped by societal norms and circumstances prevailing at the time. This shaping process determines what the authors see as the crucial variable in accounting for varying fertility patterns: how effectively birth control is learned. Their findings from a 1975 Philadelphia survey of three generations of black women strongly suggest that this new perspective does indeed clarify perplexing swings in U.S. fertility.*

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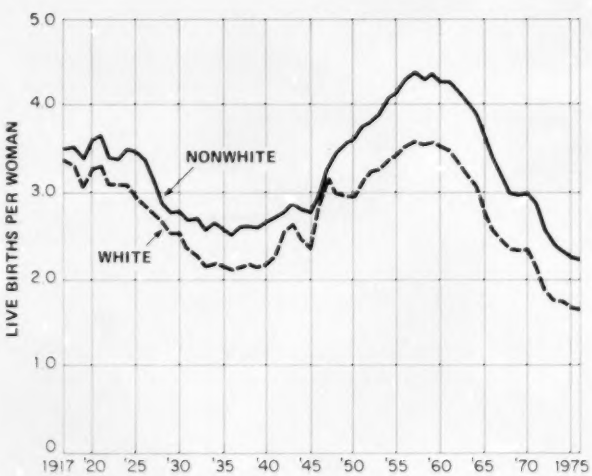
FIGURE 1. Total Fertility Rates for White and Nonwhite U.S. Women, 1917-1976



Sources: R. Heuser, *Fertility Tables for Birth Cohorts by Color, United States, 1917-1973*, Rockville, Md.: National Center for Health Statistics, April 1976, pp. 5-6, and updated figures (mimeo).

One of the most unpredictable of demographic phenomena in the 20th century has been the fertility trend of the United States. The first 40 years of this century witnessed a continuation of the long-term decline in levels of childbearing that

began sometime before 1850, perhaps as early as 1820. Such a persistent pattern of fertility decline led demographers in the 1940s to predict that the U.S. population would soon stop growing at a size far below the numbers we now have. Typical are the 1943 population estimates of Thompson and Whelpton, reiterated by Kingsley Davis, that "the 1970 figure will be 157 million; the peak will occur in 1985 with 161 million, then a gradual decline will set in."[1]

These predictions proved to be quite wide of the mark. The post-World War II baby boom pushed the actual population figure up to 205 million in 1970, and according to the latest Census Bureau forecast, "the Series II projection, in which the assumed level of future fertility corresponds closely to that suggested by recent survey data on birth expectations, indicates that the total population of the United States would grow from 215 million in 1976 to 260 million in 2000."[2] Given the outcome, one can reasonably wonder how the forecasters of the 1940s could make an error of 100 million in such a short-range projection.

It was not a simple matter of extrapolation of past trends that led demographers so far afield in their early forecasts. Their expectations were backed up by what was considered to be sound sociological reasoning. The thinking at that time has been nicely captured in the following words of Ronald Freedman, inspired by professional demographers' pet "demographic transition" theory:

> This was the view that urbanization with its accompanying specialization and high rate of mobility inevitably would lead to a growth of secularism and rationality, to the declining influence of such traditional forces as religious faith, to a shattering of traditional family ties and other primary group influences, to a growth of individualism, and to the attachment of the individual to large, impersonal and rational organizations. The functions of the family were seen as becoming dispersed among specialized institutions, and children were seen as an impediment to participation in the larger organizations from which the rewards of urban society came. The dominant view among both demographers and sociologists was that as all of the population becomes closely involved in an urban society, family planning would become universal and the size of families planned would continue to decline.[3]

According to such reasoning, the recognized norms of family life were considered to operate like a flywheel; that is, momentum was gradually built up and once built up, tended to remain, spinning along. During the preindustrial period, the momentum of norms and values tended to favor the larger family. But when the inexorable pressures of urbanization and industrialization finally changed the direction of the flywheel's spin, the new momentum that gradually built up favored small families—families so small, in fact, that total fertility could fall below the 2.1 children per woman needed for replacement, and the population would run the risk of entering a phase of "incipient decline."

But the surge in the birth rate which began in the early 1940s and continued throughout the 1950s returned fertility to the high level of the turn of the century. While most demographers expected a small increase in fertility after World War II, as families were reunited and postponed marriages and births were made up, no one predicted the sustained rise in childbearing that continued for more than a decade after the war. Between 1950 and 1959 an average of more than 4 million babies were born per year, whereas a decade earlier the annual figure was under 2.5 million.

By the time the realities of the baby boom were accepted, demographers had readjusted their thinking to recognize the pervasiveness of the pronatalist forces that were rooted in the fabric of urban social life. The institutionalization of motherhood as the dominant role for women and discrimination against women who would seek a life course independent of raising a family headed the list of pronatalist forces. Other forces thought to buoy up the birth rate included the impact of suburbanization, the resurgence of ethnic identities and cultural pluralism that resisted the forces of the urban "melting pot," constraints on individualism and rationality imposed by religious and cultural heritage, mindless and irresponsible childbearing among the lower classes who were thought not to possess the capacity for future planning, pronatalist incentives emerging out of the growing welfare policies of the government bureaucracies, and tax and housing benefits accruing to married persons with children.

Such a sociological perspective largely informed the thinking behind the report of the U.S. Commission on Population Growth and the American Future released in 1972. In the report, the population-stabilizing virtues of the two-child family were compared and contrasted to those of the three-child family, the average number that demographers then expected would characterize couples in their reproductive ages during the last third of the 20th century. The report advanced policy recommendations aimed in good part at what was thought to be the necessary changes that would have to take place in order to achieve replacement fertility. In the words of the Commission:

> Achievement of population stabilization would be *primarily the result of measures* aimed at creating conditions in which individuals, regardless of sex, age, or minority status, can exercise genuine free choice. This means that *we must strive to eliminate* those social barriers, laws, and cultural pressures that interfere with the exercise of free choice and that governmental programs in the future must be sensitized to demographic effects [emphasis added].[4]

Even as the very "measures" necessary to achieve replacement fertility were being debated by the Commission, other experts, and the public, the birth rate plummeted downward. In fact, the level of fertility necessary for long-run population stabilization was achieved almost simultaneously with publication of the report. Today, the fertility rate continues well below the replacement level, lower than at any other time in our entire history.

Demographic Transition versus "New Household Economics"

What course American fertility will take in the future is now the subject of a spirited debate among the experts. Among those who feel low fertility will continue are demographers for whom the reasoning summarized in the quote from Freedman appears basically sound. The case for the persistence of extremely low fertility appears even more certain considering such developments as the increased ability that modern contraception affords to those who wish to control fertility, the importance of increased female labor force participation in diminishing the exclusivity of the motherhood role for women, changing reproductive values in a population that is increasingly cost-conscious of the drain that children place on

personal and ecological resources, and the restructuring of living arrangements to upgrade the legitimacy of nonmarital situations. For this group of analysts the baby boom is dismissed as a passing distortion in an otherwise persistent pattern of decline.[5]

On the other side of the debate are the sociologists who believe that we should take more seriously the effects of the various social forces thought to have fostered the baby boom, and they have been joined by a group of economists who have advanced a quite different explanation of the fertility swing. Both groups are encouraged by recent surveys of fertility expectations showing that only a small fraction of women expect to remain childless or have an only child.

In contrast to the sociologists who stress the importance of subtle and insidious social forces that affect fertility, the "new household economics" perspective fingers the simple and straightforward causal mechanisms of supply and demand. According to this theory, the key to explaining the fertility swing is in the size of the cohort entering the family-building stage of life relative to the demand for workers. When the small cohorts born during the Great Depression entered the young adult ages between 1945 and 1955, their short supply in an expanding economy guaranteed good jobs, high wages, and confidence in the prospects of upward mobility. Under these conditions young couples were quick to marry and felt few constraints on having babies. Once the oldest of the baby boom generation began to enter the labor market, however, the situation was reversed. Their expanding numbers could not be easily absorbed in the job market, and consequently they had to delay their family formation and fertility rates fell.

According to this line of reasoning, we can expect an upsurge in fertility in the not so distant future as older couples who have been postponing fertility begin their family formation, and as the younger cohorts born after 1962, who are successively smaller in size, repeat the family formation patterns that took place among the shrunken cohorts that gave birth to the baby boom generation.[6]

The economic perspective is bolstered in the view of its adherents by their belief in two additional sacred cows of the economics profession. The first is the view that childbearing itself is the result of economic decisions made by a household. This perspective was first proposed by Harvey Leibenstein[7] and later modified by Gary Becker[8] and others. According to this approach, children represent an allocation of time and income on the part of parents, who make decisions about such allocations in light of the utility derived from children, the utility derived from alternative expenditures, and income constraints, including foregone income of women who devote time to childbearing. Furthermore, children are not considered to be "inferior" goods, so that other things being equal, the less the income constraints the more children are desired. Thus, demand for children is treated in a similar way as demand for consumer durables.

The second principle is the belief in the operation of long swings in the economy, similar to the operation of business cycles but spaced a generation or more apart, which create periodic and predictable demands for labor. In the past, this demand was met primarily through immigration, but given the legal quota of approximately 400,000 immigrants per year, the burden of supplying needed labor during periods of economic expansion must be carried by natural increase. Thus, according to the economic theory of fertility, all the conditions are right to expect another baby boom beginning in the early 1980s.[9]

Theoretical Perspectives and the Black Fertility Swing

On face value either the sociological or economic explanations of the fertility swing might seem persuasive. A significant shortcoming of both perspectives, however, is their failure to provide an adequate explanation for the fertility trends of various population subgroups and for actual patterns of childbearing at the individual level. Nowhere is their inadequacy more apparent than with respect to the trend and pattern in black fertility.

The trends in aggregate fertility for both blacks and whites in the United States have paralleled each other closely for as long as we can determine. Figure 1 presents these trends since 1917 using the Total Fertility Rate, the aggregate measure of fertility least affected by changes in the age structure of the population. The trend prior to 1917, using the child-woman ratio, indicates that the parallel patterns have existed since at least 1850.[10]

The long initial decline in black fertility through 1940 and subsequent upswing were hopelessly out of phase with those fertility determinants emphasized in the Freedman statement quoted above. For instance, there was little improvement in black life expectancy (averaging around 30 to 35 years) until after 1920, and thus no motivation to adjust fertility downward because of pressures brought on families by increased survivorship of children. Yet fertility fell. Moreover, this decline was due in significant part to a rise in childless families among both blacks and whites, and changes in infant and childhood mortality rates have little bearing on decisions to remain childless.

Likewise, while blacks' fertility plummeted during the 19th and early 20th century, their urbanization, education, income, and overall social mobility remained low; the fertility decline among blacks was largely a phenomenon that occurred in a poor rural population. When, after the Depression, the forces of modernization finally began to allow blacks to share in the "rewards of urban society" and life expectancy, income, and social mobility increased significantly over the low levels at which they had remained since emancipation, fertility rose rapidly. The image created by both the sociological and the economic perspectives of families moving out to the suburbs with the wife staying at home to raise children simply did not apply to the black population. For them, raising a family during the baby boom period was predominantly an urban experience with a majority of black mothers actively engaged in the labor force.

The black fertility trend, rather than being recognized as a genuine challenge to the prevailing theoretical perspectives on the white fertility trend, became the subject of an entirely different causal theory. Black fertility, it was hypothesized, was governed by changes in the prevalence of venereal disease. We have labeled this perspective the "VD hypothesis."[11] Essentially, this hypothesis stipulates that the prevalence of VD increased among blacks from 1880 to 1936, thereby severely reducing their fecundity and subsequent fertility, leading to widespread involuntary childlessness, especially in urban areas. In addition, the hypothesis attributes the subsequent rise in black fertility to a fall in VD prevalence which resulted

from the discovery of superior treatment methods and their simultaneous application to large numbers of people through the creation of government VD control programs.

Presently there is no strong direct evidence to support the hypothesis that VD was the primary architect of the black fertility swing, and no one, to our knowledge, has suggested that the most recent sharp decline in black fertility has been due to VD. Even the proponents of the VD hypothesis readily admit that the existing evidence is circumstantial at best. In a critical review of the VD hypothesis, McFalls has called much of this circumstantial evidence into question.[12] This study found that the usual arguments for a large increase in VD from 1880 to 1936, based upon rudimentary prevalence data and inferences from urban/rural and childlessness differentials, were specious. In fact, the data used in these arguments actually weighed against any great increase in prevalence. The study also concluded that the sudden rise in black fertility around 1936 was not preceded by the effective control of VD. Black fertility began to climb before substantial changes occurred in the quality, availability, and awareness of treatment. Furthermore, by clarifying the physiological effect of VD on the reproductive system, the study revealed that the potential for VD to limit an individual's (or population's) fertility has often been exaggerated in the social science literature. In sum, a more conservative interpretation of the importance of VD in the fertility history of the black population is suggested.

A variant of the VD hypothesis has been advanced by Reynolds Farley. He suggests that health conditions in general, not just VD, determined the course of black fertility. In his words:

> In conclusion, between the time of the Emancipation and the Depression, only limited improvements were made in health conditions among blacks. Certain fertility inhibiting diseases probably became more common and helped to cut the birth rate. Since the 1930s, health conditions have improved. Births have been hospitalized, maternal and infant death rates have fallen, the effects of venereal disease have been minimized, and childlessness has been reduced. These changes have influenced the childbearing ability of blacks. They are important reasons for the decline in fertility which occurred before the Depression, and the more recent rise in fertility.[13]

Farley's accumulation of evidence in support of his health hypothesis is detailed, but it too is largely circumstantial. Moreoever, since his health hypothesis recognizes VD as its most important component, it suffers from many of the shortcomings of the VD hypothesis. But the primary weakness of these health and disease hypotheses is that they are *residual*, usually introduced in an ad hoc fashion after the sociologically inspired explanations have proved insufficient and are abandoned. These explanations are advanced, not on their merit, but through default. Farley, reflecting on his health hypothesis, reveals:

> My explanation developed as a residual kind of explanation. I examined all the variables that might be used to explain low fertility rates and found that they could not explain the observed rates. However, there were a few field studies that did find very high rates of disease among blacks. Many diseases were reported, not just the venereal diseases.[14]

If the sociological and health perspectives cannot explain the trend and pattern in black fertility, can the economic perspective do much better? The true test of the economic perspective will come when it is determined whether the second baby boom it predicts does or does not materialize, but in the meantime there are certain fundamental inconsistencies between this theoretical perspective and the black fertility swing, particularly the phase of the most recent downswing. The economic perspective emphasizes the importance of labor market conditions for the family building patterns of young adults. However, the downswing in black fertility since 1959 has been dominated by the decline in higher order births among older women, with little change until very recently in the pace with which young blacks moved into motherhood. That is to say, the rate at which black women have been having their fourth, fifth, and sixth-plus births has fallen dramatically since 1959, while the rates at which they have had their first and second births have not fallen sharply until the last few years.[15]

The economic theory of fertility suffers generally from the problem of being unable to account for actual trends and variations in fertility patterns in specific age groups and pertaining to specific order births. In particular, a large part of the first phase of the fertility swing has been due to a swing in the fraction of women who remain childless. Between 1940 and 1960, when fertility was on the upswing, the fraction who made the transition to motherhood by age 25 rose from 57 to 76 percent, with eventual childlessness for these cohorts ranging from a high of 30 percent to a low of 11 percent. (When total fertility fell from 1960 to 1975, the transition figures did not change much: an almost constant 43-45 percent of black women became mothers by age 20 and an equally constant 73-75 percent became mothers by age 25.[16])

Not only must there be an explanation of why some women postpone childbearing, but a satisfactory theory must help us to understand why some women never make the transition to motherhood. The asymmetry in the pattern of black childlessness on the two sides of the fertility swing and the inability to deal with the basic question of who remains childless without resorting to a biological explanation constitute, in our judgment, fundamental weaknesses of all of the perspectives on fertility that we have discussed thus far.

This failure to understand the swing in the birth rate and this inability to account for similarities and differences in trends in subgroups of the population call for a fresh perspective. In the next section we sketch an outline of an alternative perspective and in the following section present results from a study of three generations of black women who have contributed to the peak and troughs of the American fertility swing.

The Process of Fertility

Our theory reconsiders the role of three major variables that have influenced fertility across all populations throughout human history: (a) fecundity, or the biological capacity to reproduce; (b) mate exposure, including the frequency of premarital intercourse, marital stability, and coital frequency within marriage; and (c) the "use-effectiveness" of birth control, including contraception and abortion. Although it is generally understood that these three variables have their independent effects on fertility, we are also concerned with the interaction of these variables, particularly how variations in the first two affect the third.

Our starting point is the recognition that childbearing can

take place over a broad period in a woman's life. Therefore, we should strive to understand those elements in the *process* of reproduction which determine when childbearing begins, how births are spaced, and when childbearing ends. This requires the adoption of a cohort perspective which emphasizes that events taking place over the reproductive ages are not independent of one another. Rather, events at the early stages of the process affect what happens at later points. All too often in the fertility literature the cohort perspective has been given mere lip service, and fertility has been reduced to the single dimension of completed family size. In the sociological perspective, for example, it has been this end product of the process that has been considered the bellwether of reproductive performance, with norms about "ideal," "desired," or "expected" completed family size emphasized in explanations of fertility trends and differentials. According to such thinking the fertility-related events and behavior throughout the course of a woman's life are dictated by the end point rather than *vice versa*.

The use of a cohort perspective allows us to approach fertility more realistically, that is, in the direction in which the process proceeds. The importance of family size "norms" in the sociological jargon, or "tastes for children" in the economic idiom, are thereby de-emphasized as causal factors. In their stead we suggest that norms, events, and behavior surrounding the temporal pattern of fertility, particularly in the beginning of the reproductive period, provide the most important causal mechanisms determining the trajectory of cohort fertility.

Factors related to the temporal patterns of childbearing include the appropriate age to begin sexual activity and peer and parental sanctions against beginning earlier or later; the delay until regular intercourse takes place; the probability of conception once regular intercourse has begun as influenced by both fecundity and use of birth control; the delay after marriage that is deemed appropriate or acceptable to have a baby; the social costs of a premarital pregnancy or illegitimate child; the desirability of using contraception and its effect on "spontaneity" during the formative phase of sexual activity; the legitimacy of childless and one-child families at different stages in a couple's life course; the desired spacing between children; and so forth. These aspects of the childbearing process have received little attention in the literature, yet it is this set of factors, we contend, that are the most influential in setting the pattern of ultimate reproductive performance in a population.

Three features of the American fertility swing stand out as critical tests of any theoretical perspective and must be directly dealt with before we can claim to have an understanding of what has occurred. These aspects are:

1. The extremely low levels of fertility of women during the 1920s and 1930s, achieved by a large fraction having no children at all or only one, in a population supposedly largely ignorant of birth control and only one or two generations removed from large families.

2. The failure of the baby boom mothers to use birth control effectively and the resulting large amount of "unwanted fertility" in the post-World War II decades in a population supposedly becoming ever more sophisticated in their knowledge of and accessibility to birth control, and only one generation removed from their mothers who managed childbearing much more effectively.

3. The rapid and unanticipated sustained decline in fertility that has cut across all religious, ethnic, racial and geographic subunits of the population.[7]

For all three of these dimensions to the fertility swing, the use-effectiveness of birth control has been a critical variable differentiating the high- and low-fertility cohorts, as well as a factor explaining fertility differentials within cohorts. Therefore, differences in the effective use of birth control deserve special consideration.

The ability to effectively control reproduction is not simply a product of one's family background or socialization to fertility ideals prior to sexual activity, nor is it developed in isolation from events and circumstances surrounding the onset of reproductive maturity. Such control emerges within the context of ongoing sexual activity and risks of pregnancy, and against a background of all of the factors influencing the temporal pattern of childbearing that we mentioned above. In a word, we can say that effective birth control behavior must be "learned." The ability of a couple to practice birth control effectively depends upon the individuals' inclination to define themselves as contraceptors, their willingness and ability to follow an untimely or unwanted pregnancy with an abortion, and, most importantly, their resolve to do whatever is necessary to successfully plan their pregnancies.

It is conventional to use the term *practice* (as in "practice contraception") to indicate simply the "use" of contraceptive methods. Our perspective emphasizes the "training" and "learning" denotation of the word. Each generation must achieve its skills at practicing birth control by doing just that—practicing. Effective birth control use is not something instilled in one by school or parents, and each individual must discover what is best for himself or herself. Thus, contraceptive practice reinforces the idea that it is possible to control the timing and magnitude of fertility, and planning one's family is seen as a viable option.

Learning to regulate fertility is best done during the months following the onset of regular sexual activity. An individual who does not learn birth control early will be less able to achieve control of fertility later in the reproductive period. A late start at birth control, after a period of uncontrolled fertility has taken place, requires one to overcome the inertia of established self-perceptions and roles related to the continuous experience of parenthood, to break with familiar and comfortable patterns of noncontracepting sexual activity, embark on new patterns of communication with one's sexual partner regarding the measures to be taken to avoid a pregnancy, and finally to be confronted with the need to adopt new behavior patterns at a stage in the family-building process when the motivation to avoid an accidental pregnancy might not be the strongest and while fecundity is peaking.

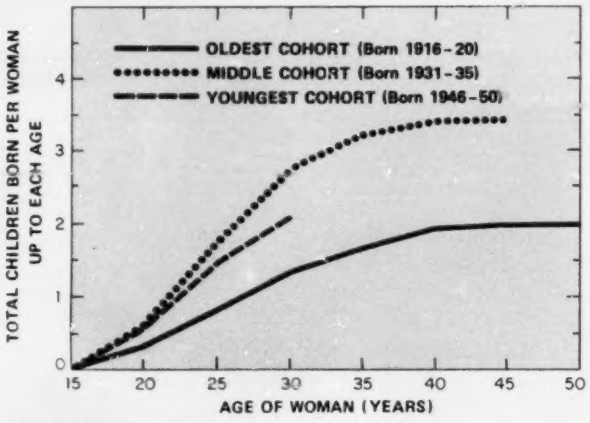
Attitudes toward oneself as a person who desires to and is capable of taking the necessary steps to avoid pregnancy are as important as simple knowledge of birth control methods. The earlier in the reproductive ages that this awareness, derived from experience, takes place, the greater the chance that individuals will develop well-defined fertility goals. Such individuals would not possess a naive confidence that family-building goals are easily achieved, but would understand

better just what is required to successfully plan births. Even individuals with early unsuccessful contraceptive experiences would be more aware of the measures that must be taken, *ceteris paribus*, than those having had no experience whatsoever in limiting births. When early failures are followed up by contraceptive successes, the conviction will emerge that reproductive goals can be achieved if there is adequate commitment to their pursuit. To put this argument more strongly, unless birth planning is practiced early in life, one suffers from a trained incapacity to regulate fertility. Conversely, the effective early fertility regulator is more likely to develop a sense of confidence in the ability to set and alter family building goals at various stages in the reproductive period, and to stop childbearing altogether at a later time in the reproductive period when additional children are no longer desired.

The motivation to use birth control early in life may depend heavily on the relationships between age at onset of sexual activity, age at marriage, and the acceptability of an out-of-wedlock pregnancy. In most societies there are strong negative sanctions against illegitimacy, making the period of premarital sexual activity one of high motivation to avoid pregnancy. From our perspective, a good situation under which to begin to practice birth control is where regular sexual activity begins while the woman is still a teenager, along with the expectation that marriage will be several years later. This pattern will result in a lengthy period of sporadic sexual activity where the motivation to avoid pregnancy is high. Furthermore, the early phase of sexual activity among teenagers often occurs before full reproductive function has been attained. Mistakes that are made using inefficient birth control would not lead as rapidly to a pregnancy, thus providing a longer period for trial and error. Such a period of reduced risks might be necessary for socialization to "traditional" forms of contraception such as the condom, diaphragm, rhythm or withdrawal.

Pregnancy can influence mating, fecundity and contraceptive use as well as vice versa. A baby can lead to stability in unions for some couples and to instability for others, largely determined by the maturity of the parents and the climate of economic and social support upon which the newly constituted family can draw. For many, the period following childbirth is similar to the teenage years in that there is both high motivation to avoid another pregnancy and reduced fecundity, especially if the infant is breastfed. Thus, variations in social and economic conditions, and other factors such as breastfeeding patterns must be considered in structuring the relationships between mate exposure, fecundity, birth control, and fertility.

FIGURE 2. Cumulative Fertility by Different Ages for the Three Cohorts of Black Women



Source: Philadelphia Fertility Study

We can now sketch an explanation of the American fertility swing that is consistent with the behavioral perspective just presented. The fertility rates of the 1930s represented levels below those that were desired, and were achieved in part because of deliberate use of birth control, in part because of the inability of couples to form viable unions because of economic and social constraints, and in part due to lower fecundity from poor health and inadequate nutrition. The Depression cohorts delayed their reproductive unions, although not entirely their sexual activity, and by the delay established themselves as contraceptors. The stability of sexual unions was lower in these cohorts, and upward social mobility, if it were to occur, required a longer postponement of raising a family. For many, this simple postponement turned into an unplanned and reluctant total sacrifice of the parenthood role, as conditions that would enable them to move ahead with parenthood never did materialize.

The baby boom in the next generation is due to a sudden reversal of economic conditions, first associated with the stimulus to the economy provided by World War II and later due to the enormous expansion in transportation, housing, and government spending associated with the growth of metropolitan areas. The small young cohorts reaching adulthood found themselves in a favorable position to marry and settle down. Their quick start at childbearing was not so much a matter of pursuing large family goals, but rather of moving quickly and decisively into their "own" by the most traditional means available to them—moving out of their parents' home, setting up their own household and securing adult status by becoming parents themselves. Since there was less motivation to delay marriage and parenthood for the post-World War II cohorts, accidental pregnancies were less likely to be terminated by (illegal) abortion. The high rates of unwanted childbearing coming later in the reproductive ages were the result of trained incapacities to effectively regulate fertility due to only casual use of birth control in the early reproductive ages. The fertility "goals" of this generation, to the extent they existed, were modest at the outset with most women wanting two or three children, a situation not unlike that a generation earlier.

The recent sharp decline in fertility has been the result of a combination of circumstances militating against childbearing in the younger cohorts, and the existence of a means for older women who had previously embarked on a course of rapid childbearing to truncate their fertility sharply. The latter include liberalized abortion laws, safe and available sterilization, and, of course, the Pill and IUD. By comparison to traditional methods, the risks of an unwanted pregnancy occurring with the use of these methods is small. Furthermore, they do not interfere with established patterns of sexual activity. The Pill and IUD are by no means perfect contraceptives, however, since neither is well suited to teenagers

TABLE 1. Percentage of Each Cohort Who Have Had Specified Numbers of Children

Birth cohort and age in 1975	Percentage at a given parity						Number of women in sample
	0	1	2	3	4	5+	
1916-20 (55-59 yrs.)	35.9	16.4	17.1	9.6	7.1	13.9	281
1931-35 (40-44 yrs.)	10.0	12.9	20.0	18.3	10.0	28.8	240
1946-50 (25-29 yrs.)	23.9	27	21.8	15.2	9.1	2.5	197

who cannot accept and hold an IUD and whose intermittent sexual activity does not sufficiently reinforce pill taking each and every day. For women in the middle of the reproductive ages, actual or feared side effects of these methods have led to high discontinuation rates, and ability to terminate childbearing by these methods or to space children over long periods of time is still limited.

The younger women who are contributing to the downswing in fertility are a mixed group, and their behavior is not easily characterized by a single generalization. Some have delayed marriage because of the difficulty young couples face today in setting up an independent household, particularly if they desire to have children right away. For others marriage or "living together" has occurred but fertility is being postponed until careers and identities are stabilized. Still others have rushed precipitiously into parenthood but have not been able to establish a stable marital union. For them, the responsibilities of parenthood have been a maturing experience, and they are reluctant to have more children until they can be provided for. Black women, in particular, have been disproportionately represented in the group sharing this last type of experience, but their representation is declining while that of young white women has been increasing in recent years. Many young women who have become mothers with the intention of having two or more children are "reconsidering" this decision in light of their experience with the first child. All in all, a complex pattern of relationships between sexual activity, union formation and dissolution, and birth control use account for the downward trend in fertility among young women.

Let us now review a portion of the evidence we have gathered in support of such a perspective.

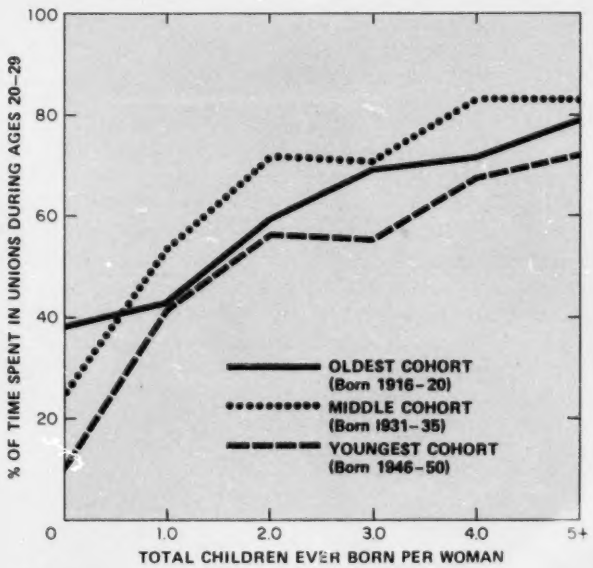
The Philadelphia Fertility Study

Our perspective on the determinants of cohort fertility patterns was tested in a survey sample of 718 black women living in Philadelphia in 1975. We chose to focus exclusively on black women because of the dubious explanation heretofore given for their 20th century fertility swing and because the structure of black fertility is well suited for testing our framework. Because the fertility swing among blacks is more exaggerated than among whites, we were able to maximize expected variation in our dependent variables. The strategy was to choose women representative of the peaks and troughs in the fertility swing. Selected were women born in 1916-1920, 1931-1935, and 1946-1950, who were 55-59, 40-44, and 25-29 years old in 1975, respectively. In a rough way, women in these cohorts are drawn from age groups separated by a generation, and thus they can be thought of as mothers, daughters and granddaughters. Their cumulative fertility curves are graphed in Figure 2, and it can be seen that their childbearing patterns do reflect the fertility swing.

When the childbearing patterns are viewed in terms of parity distributions, the structure of the fertility swing can be better understood. Table 1 gives the percentage of women in each of the subgroups who have had a specified number of live births. For the two older cohorts, for which the parity distributions are equivalent to completed family size, differences in the frequency of very small and very large families are striking. Women who ended their reproductive periods childless or with one live birth represent over 50 percent of the oldest cohort, compared to less than half this figure for the baby boom cohort. The differential is reversed for large families, with twice as many women having five or more children in the high fertility group than in the cohort who entered their reproductive ages during the Depression.

In addition to our focusing specifically on groups of women with highly variable fertility, this study was a departure from previous American studies in several other respects. First, following the arguments outlined above, we have emphasized collecting data on the dynamic properties of the reproductive process. We have eschewed the more static variables of education, occupation, religion, and social class in favor of greater attention to variables subject to substantial cohort differences. These variables are those related to the *timing* of events that affect the rate at which women make the transition to motherhood. Included are such factors as the timing of the onset of

FIGURE 3. Number of Live Born Children by Percent of Time in Unions During Ages 20-29



Source: See text.

TABLE 2. Percentage of Each Cohort at Specified Parity Who Achieved, Fell Short of, or Exceeded Their Number of Desired Children

Achievement of desires by cohort	Percentage of each cohort						
	Number of children desired when age 13-19						
	0	1	2	3	4	5	All parities
Achieved desires							
Oldest	40.6	41.2	23.0	21.2	9.5	21.7	27.4
Middle	11.3	20.0	20.0	22.6	9.5	15.0	16.8
Youngest	22.7	25.0	21.9	15.4	12.1	0.0	17.5
Fell short of desires							
Oldest	—	17.6	51.0	60.7	76.2	78.3	41.1
Middle	—	20.0	24.4	35.5	42.9	85.0	27.3
Youngest	—	37.5	60.1	73.1	87.9	100.0	52.6
Exceeded desires							
Oldest	59.4	41.2	26.0	18.2	14.3	—	31.6
Middle	88.7	60.0	55.6	41.9	47.6	—	55.9
Youngest	77.3	37.5	18.0	11.5	0.0	—	29.9

sexual activity and age at formation of conjugal unions, mate stability, labor force activity, and use of birth control at different points in the life course. We examined these temporal variables in terms of the linkages they provide between early reproductive events and subsequent childbearing. Particular attention was given to specific events that occur before, between, and after pregnancies. The study questionnaire treats separately the broad age intervals of the teens, the 20s, and the 30s and older. Because of their importance in conditioning the development of eventual reproductive performance of women, the teens and 20s are given relatively greater attention in the analysis.

A frequent shortcoming of most fertility surveys is that they attempt to use a single generalized questionnaire as a study instrument, to which must be accommodated respondents with a wide spectrum of union, contraceptive, and reproductive histories. An innovation in our study design was the development of a questionnaire that was fully adjustable to the wide variability in these dimensions of reproduction that we anticipated finding in the three cohorts. Three specific workings of the questionnaire were developed, one custom tailored to each birth cohort. In addition, certain questions were placed in a series of appendices, the number and sequence of administered appendices determined by the respondent's sexual, contraceptive, and reproductive histories. In this way we were able to ask specific relevant questions about a wide variety of both typical and atypical behavior with equal facility.

The questionnaire was organized around events occurring in the age intervals 13-19, 20-29, and 30-49 taken one at a time. No questions were asked about a later interval until all questions were answered regarding the preceding intervals. Unlike most fertility surveys, this questionnaire did not cover a topic such as a woman's lifetime pregnancy history, and then take up another subject such as contraception. Instead, it inquired about all events—pregnancy, contraception, etc.—that took place in a particular interval before moving on to the next interval; by doing so we hoped to improve recall. The assumption was that various events occurring during a period in the respondent's life could be associated in memory with one another, and remembering and discussing some of these events helps to recall others. For example, a woman would better remember why she contracepted before age 20 if she were asked that question in conjunction with inquiries about her mates, pregnancies, employment, and other subjects pertaining to that period.

The large differentials in intercohort fertility depicted in Figure 2 and Table 1 can be compared to fertility desires early in the reproductive period. The question was asked of all women: "During your teens, how many children did you eventually want to have?" The answers revealed strikingly little variation across cohorts, with a little over 20 percent of each cohort desiring none, about 40 percent one or two, and the remainder wanting three or more or not knowing.

Desires during the teens are particularly important as a statement of "ideals" because the actual pattern of childbearing has not yet intervened to modify desires. Of course, there may be a tendency for women to retrospectively minimize the reported difference between desired and actual family size in order to rationalize their behavior in this regard, but this does not seem to be the case with these data. Large differentials were found between desired and actual fertility. The percent who either achieved, fell short, or exceeded their desired parity is presented in Table 2. These figures clearly indicate that the low fertility of the oldest compared to the middle cohort was achieved by a combination of a higher fraction of the older women who desired few children achieving these desires, and by a substantial undershooting of desires among women in this oldest cohort who wanted two or more children. In contrast, the middle (baby boom) cohort was considerably less successful in limiting families to fewer than two children and, in general, overshot their desires. The figures for the most recent (youngest) cohort are not directly comparable since they have not yet completed childbearing.

Any explanation of these cohort fertility differentials, and of the American fertility swing, must account for the great differences between cohorts in their ability to achieve fertility desires. Following the theoretical perspective outlined above, several variables were found to be strongly associated with fertility differentials, and taken together can explain the observed differences between desires and achievements. These variables relate to the age at which certain reproductive events first occur, and to the lags between these events. The events include: (a) first intercourse; (b) regular sexual relations; (c) cohabitation with a mate; (d) first use of contraception; and (e) regular contraception.

TABLE 3. Mean Age at Start of Regular Intercourse, First Union, and Regular Use of Birth Control by Number of Live Born Children for the Three Cohorts of Women

Cohort and type of event	Mean age (years) at start of event: Number of live born children 0	1	2	3+	All parities	Number of women in sample
Regular intercourse						
Oldest	22.3	20.8	20.6	20.1	21.1	263
Middle	22.0	20.7	20.1	19.2	19.8	228
Youngest	20.5	19.8	18.8	18.2	19.3	184
First union						
Oldest	24.4	22.0	21.8	20.5	22.4	269
Middle	25.3	22.1	21.7	19.9	20.9	221
Youngest	23.1	21.2	20.5	19.7	20.3	131
Regular use of birth control						
Oldest	22.4	27.5	27.7	27.4	26.6	109
Middle	25.4	23.4	24.9	25.4	25.0	152
Youngest	21.6	21.3	21.3	21.1	21 3	161

There are only small differences among the three cohorts in mean age at first intercourse, each averaging between 18 and 18½ years. However, when the women were asked when they began to have intercourse regularly, the responses show that the elapsed time between first intercourse and regular intercourse was 1.2 years longer for the oldest compared to the middle cohort. The age at which the oldest cohort began living with a mate was older still. The Depression cohort began cohabitation at a mean age of 22.4 years compared to 20.9 for the high fertility baby boom mothers (Table 3).

The youngest cohort's mean age at first union is 20.3 years, but this figure is biased downward due to the fact that one-third of these women have yet to live with a man. Since the women in this cohort are still relatively young (mean age 26.4 years), many who have not yet married or lived with a mate will do so eventually, and their ages at first union will raise the cohort average. That the youngest cohort is comprised of two groups of women, one that formed unions early and one that has yet to do so, offers insight into the group's distinctive fertility pattern. The mothers in this youngest cohort started childbearing early, had their *last* baby at mean age 23.2, and in recent years have ceased childbearing. Their desired family size has been already attained or modified downward by the social and economic climate of the 1970s. Although these women are still quite young and are capable of bearing many more children, it is unlikely they will do so. The childless women and women who have not yet formed a union, although likely to bear some children in the future, will undoubtedly have many fewer than those in a conjugal union who already have children.

This latter conclusion is supported by the evidence presented in Figure 3, where the number of children ever born is graphed against the proportion of time during the prime reproductive ages spent in unions. There is a strong positive association between parity and the proportion of time between ages 20-29 (age 20 to present age for the youngest cohort) spent in unions, despite the fact that regular sexual activity and risk of pregnancy are not confined to cohabitating unions. Many women with a low proportion of time in unions did engage in regular sexual activity, as we shall see below. However, such circumstances provide a strong motivation to use birth control.

Table 3 shows an inverse relationship between age at start of regular intercourse and parity for all three cohorts. Although the youngest cohort is not strictly comparable to the two older cohorts because some women in this group have yet to begin regular intercourse, biasing the average ages downward for those who have, the inverse relationship is readily apparent in this group also. Note the substantially longer delay to regular intercourse for the childless women in all three cohorts. Although women who have remained childless have foregone two or three years of their reproductive period

TABLE 4. Mean Lags from Regular Intercourse to First Union and First Union to Regular Contraception by Children Ever Born for Each Birth Cohort

Cohort and type of lag	Mean lag (months): Children ever born 0	1	2	3	4	5+
From regular intercourse to first union						
Oldest	22.2	6.8	15.7	18.9	5.0	4.8
Middle	33.8	15.0	17.1	4.1	10.4	10.2
Youngest	36.0	16.5	20.1	18.7	23.2	7.8
From first union to regular contraception						
Oldest	-33.5	55.4	65.4	38.6	74.0	89.0
Middle	- 1.6	2.1	28.8	64.6	58.7	66.2
Youngest	-17.7	0.1	7.8	14.5	7.1	9.5

by their later start at regular sexual activity, this delay alone cannot account for their childlessness. We suggest that this longer delay provides them with the opportunity to mature and develop confidence about contraceptive use.

The same direct relationship between parity and age at regular intercourse is repeated for age at first union. Again, the childless women show an unusually long delay before establishment of their first union.

Another key relationship, that between parity and regular use of birth control, is presented in Table 3. Ever-contracepting women within each of the two younger cohorts began regular use of birth control at about the same age regardless of parity, at a mean age of 25.0 years for the middle cohort and 21.3 for the youngest. But in the oldest cohort, age at regular contraception varies systematically with parity, childless women beginning regular contraceptive use about four years earlier than high-parity women. This finding contradicts the shibboleth that childless women in the Depression cohort were childless because of sterility. Overall, about 40 percent of women in the oldest cohort in our sample used contraception regularly, and over 50 percent used birth control at some time in their reproductive ages. Moreover, as we shall see shortly, the relatively young age at which childless women began regular contraception results in important lag differentials between first union and contraception.

Table 4 records the mean lag in months between the onset of regular intercourse, first union and regular use of birth control. The pattern of lags among these variables shows that higher parity women moved relatively quickly from regular intercourse to cohabitation. In contrast, childless women had comfortable delays of two or three years from the time they began regular sexual activity until they began to live with a man. Some of these couples were undoubtedly subfecund, and therefore were less likely to be forced into a union by an "accidental" pregnancy that followed from not using birth control. At least one-quarter of the childless women in the oldest cohort, however, were regularly using birth control before living with a mate. This pattern is repeated for the other two cohorts. In contrast, the higher parity women in the two older cohorts waited on the order of three to six years after forming a union to begin to practice birth control.

To summarize the selected findings presented above, we found in all three cohorts that the number of children ever born was inversely related to age at regular intercourse, age at first union, and time spent out of unions. We also found that for the low-fertility Depression cohort, childless women began regular contraception much earlier than did women who became mothers. In addition, in all three cohorts the relationships between parity and the lags in these variables were consistent with our theoretical perspective. We conclude that the timing of these reproductive events, often determined by circumstances and chance factors outside of a person's volition or control, influences not only intercohort fertility differentials, but intracohort differences as well.

The low-parity women, especially the childless ones, attained their situation in several ways. Some moved slowly into unions and quickly into the use of birth control, while others who did not use birth control minimized their exposure to the risk of pregnancy through delayed, short and/or unstable unions. Still another fraction of these low-parity women were undoubtedly subfecund. Conversely, high-parity women had greater exposure to the risk of pregnancy through earlier entry into sexual unions and a later start at contraceptive use. We suggest that among high-parity women this timing of events led to less effective use of contraception, contributing further to their higher parity.

In conclusion, by viewing the three classical fertility determinants of fecundity, mate exposure, and use of birth control as dynamic variables having a temporal dimension and having both independent and interactive effects, we have attempted to decipher the process by which some individuals gain control of their childbearing while others do not. All evidence suggests that the explanation of the American fertility swing for black women is understandable in terms that are entirely generalizable to the entire U.S. population. These aspects of the reproductive process we have examined here provide a new perspective on the 20th century American fertility swing.

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